



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,818	02/12/2004	Gopal P. Mathur	03-0666	5706

55132 7590 02/14/2007
WILDMAN HARROLD ALLEN & DIXON LLP
AND THE BOEING COMPANY
225 W. WACKER DR.
CHICAGO, IL 60606

EXAMINER

COLON SANTANA, EDUARDO

ART UNIT	PAPER NUMBER
----------	--------------

2837

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

57

Office Action Summary	Application No. 10/777,818	Applicant(s) MATHUR, GOPAL P.	
	Examiner Eduardo Colon Santana	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/19/2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao-Joe Yang et al. 1997 IEEE International

Conference, article title "Effect of air dampening on the Dynamics of Non-Uniform Deformations of Micro-Structures" or Jee U.S. Patent No. 6,638,640, and Leonetti et al. U.S. Patent No. 6,053,275 in view of Deblander U.S. Patent No. 6,789,645.

Referring to claims 11, 13 and 15, Yao-Joe Yang et al. discloses a flexible mechanical microstructure (figure 1) as a squeeze film damper attached to a vibrating surface (substrate), the squeeze film damper having a substantially rectangular rigid planar base; a substantially planar flexible cover (deformable beam) supported above the substantially rigid base structure (substrate) by a support structure (rigid support), such that the substrate, rigid support and the deformable beam enclose a volume filled with air, which is a gas.

Jee also addresses all the similar limitations as describe by Yao-Joe Yang et al. above (see figures 1 and 2) in Patent No. '640.

However, Yao-Joe Yang or Jee does not explicitly describe having an array of squeeze film dampers coupled to a vibrating surface.

On the other hand, Leonetti et al. discloses an acoustical absorber array (figure 1) in which a plurality of acoustical absorption elements (20, 22, 24, 26) is attached to a surface (12). However, does not teach or describe having a rigid cover over the array.

Nonetheless, Deblander describes a sound-insulating sandwich element wherein a rigid cover (1) is over a squeeze film damper as describe by Yao-Joe Yang or Jee above (see figure 6 of Patent No. '645).

Since Yao-Joe Yang, Jee, Leonetti and Deblander are in the same field of endeavor regarding sound absorption, the purpose disclosed by Deblander would have been recognized in the pertinent art of Yao-Joe Yang or Jee in view of Leonetti.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have an array of acoustical elements as taught by Leonetti et al. within the teaching of Yao-Joe or Jee for the purpose/advantages that by having an array of sound absorption dampers a larger area can be cover; and the production and manufacturing inventory would be reduce, cutting back material cost and time.

It would have been obvious to one of ordinary skill in the art to have a rigid cover over a squeeze film damper as taught by Deblander within the teaching of Yao-Joe Yang or Jee in view of the array of Leonetti for the purpose/advantages that extra sound absorption would be recognize independently of the noise vibration reduction the array already performs y addition to a more esthetic view.

As to claim 12, Deblander discloses that the rigid cover as well as the core layer of the sandwich elements (facing layers) can be of different types of rigid foam (see Col. 1-4).

Referring to claim 14, Jee discloses that a substantially rigid planar base (1) is substantially rectangular as seen in figure 1, but does not explicitly describe that the substrate can be substantially round. However, it appears that Jee does not address the require structure or dimensions to have a rigid planar base (1). It would have

Art Unit: 2837

been an obvious design choice to one of ordinary skill in the art at the time of the invention to have a rigid planar base of different structures and dimensions (i.e. square, oval, round, etc.), since Applicant has not disclosed that having a rigid planar base that's round solves any stated problem or is for any particular purpose and it appears that the round shape would perform equally well as a rectangular shape planar base.

Referring to claim 16, Jee depicts a squeeze film damper, showing a plurality (only 2 shown) of support structures (3 or 4) about the perimeter of the rigid planar base (1).

As to claim 17, the method step is obvious to the product structure of claim 11 above. Further discussion is omitted.

Referring to claims 18-21, Jee discloses that the surface to which the flexible plate (2) can be attached or replace with includes the surface of a vehicle component and the like (see Col. 3, lines 30-33). The phrase "the like" being interpreter as any interior surface that needs sound absorption.

Response to Arguments

3. Applicant's arguments with respect to claims 11 and 17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record in form 892 and not specifically relied upon is considered pertinent to applicant's disclosure to further show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 X.37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eduardo Colon Santana
Examiner
Art Unit 2837

ECS
February 8, 2007


LINCOLN DONOVAN
SUPERVISOR, PATENT EXAMINER